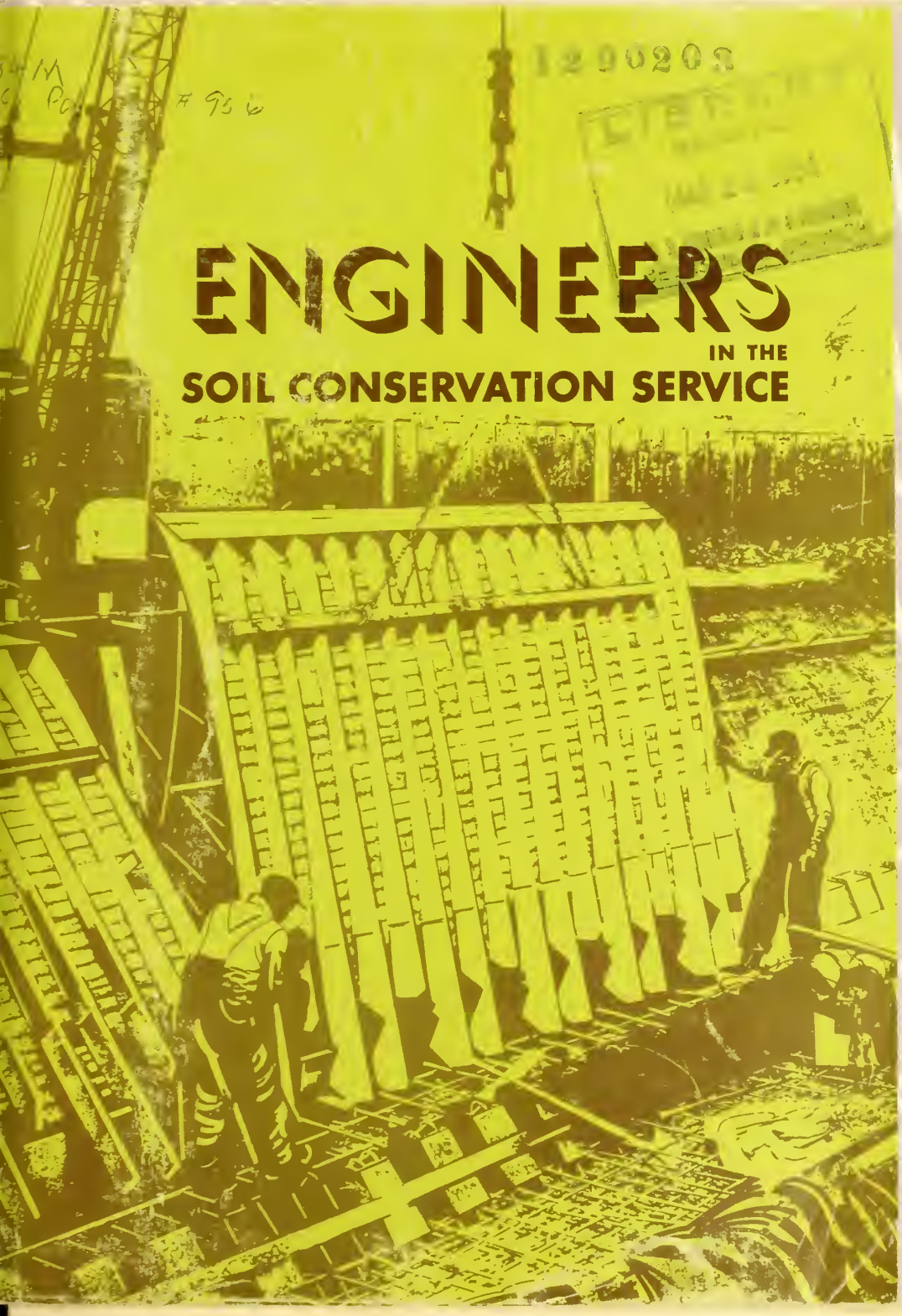
ENGINEERS

IN THE SOIL CONSERVATION SERVICE



U.S. DEPARTMENT OF AGRICULTURE • SOIL CONSERVATION SERVICE • MISCELLANEOUS PUBLICATION NO. 956

ENGINEERS
IN THE
SOIL CONSERVATION SERVICE

The Soil Conservation Service carries on a wide variety of work that requires the services of engineers. This publication describes and illustrates many of these activities. Engineers who go into the soil and water conservation field not only do interesting and satisfying work but also have an opportunity to contribute to the engineering aspects of rural areas development for an ever increasing number of American people.

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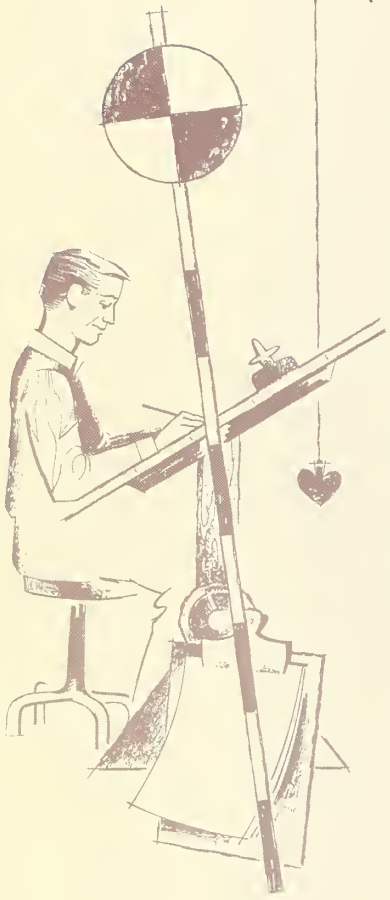


SCS Engineering Work Expands

Engineering is a vital part of the soil and water conservation activities of the Soil Conservation Service.

The SCS job has expanded to include many new activities and programs, including major watershed protection and flood prevention projects that require the services of highly trained engineers.

The need for engineers in SCS has never been greater.

Growing demands for water for agriculture, industry, and domestic and recreational uses have created wide acceptance of the watershed program. Nearly a thousand projects are in the planning or construction stage. In general demand are multipurpose structures to provide protection from floods and to store water for farm, city, and industry and for public recreation.

Engineering Jobs Varied and Complex

Engineering is involved in most aspects of the Soil Conservation Service's program.

Conservation engineering ranges from cartography to construction, from geology to streamflow forecasting. It includes irrigation, drainage, erosion control, and soil mechanics.

It includes investigation and field surveys, planning, design, and construction.

SCS engineers—skilled in moving and shaping earth, in designing and constructing diversions and earth dams, in shaping and stabilizing stream courses, and in using steel and concrete to control water—are esteemed members of the team of SCS specialists.

SCS Engineers Work Everywhere

Soil Conservation Service engineers work in all 50 States and in Puerto Rico and the Virgin Islands.

SCS engineers have gained world renown in their successful dealing with new problems in a challenging field. Engineers experienced and

trained in the SCS are in continuing demand in foreign nations needing help in setting up soil and water conservation and watershed programs.

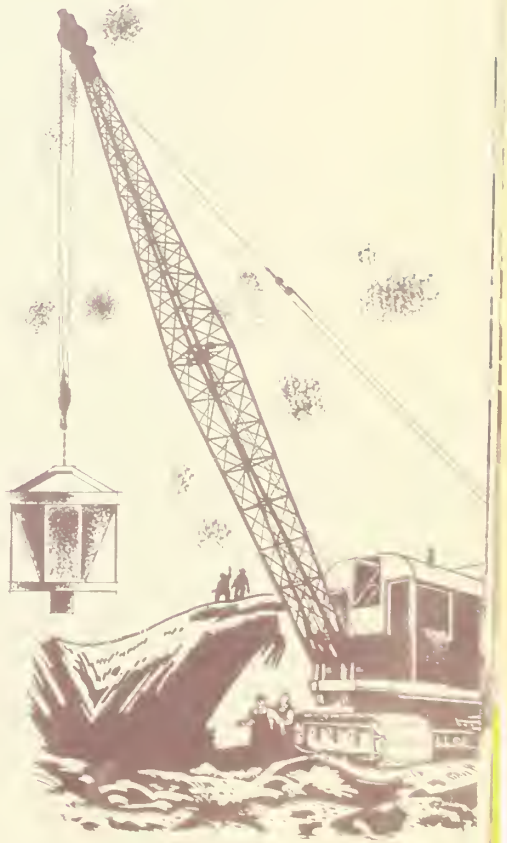
The map (back cover) shows watershed projects in the planning or construction stage in the 48 States. A county-by-county survey of soil and water conservation needs shows that more than 8,300 watersheds in the Nation require project-type action to protect them and to provide efficient use of soil and water.

Training—Advancement

The Soil Conservation Service provides intensive and specialized training in many fields of engineering under competent, experienced engineers, both on the job and in group training centers.

Where needed, it provides free specialized training at colleges and universities to highly qualified employees.

SCS has a "promotion-from-within" policy. This gives engineers an opportunity to stay in professional and specialized jobs or, based on their aptitude and abilities, to move into technical administrative jobs.



Employment Facts

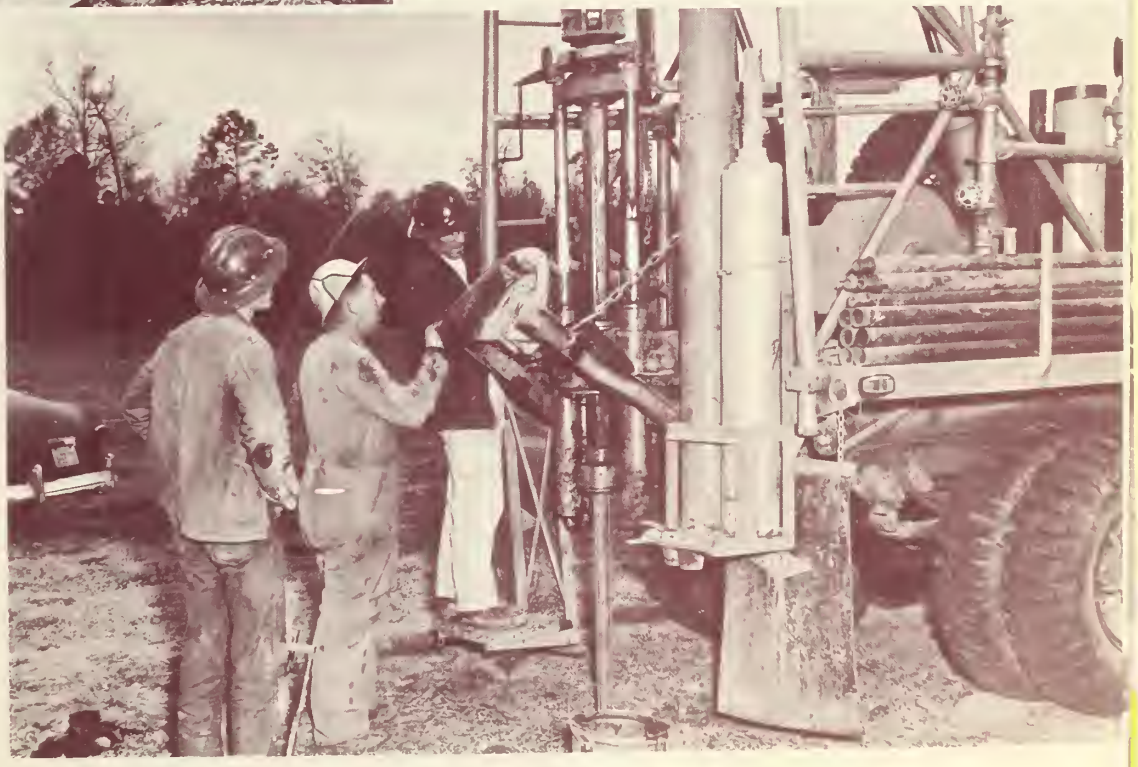
Information—Ask your college placement officer or postmaster or write to the nearest Soil Conservation Service office for the announcement of the SCS engineering examination and an application blank. Your college placement officer will have a list of the main SCS offices where you can get additional information.

How to Apply—If you have the right qualifications, fill out the application (Form 57) carefully and mail it as directed in the announcement.

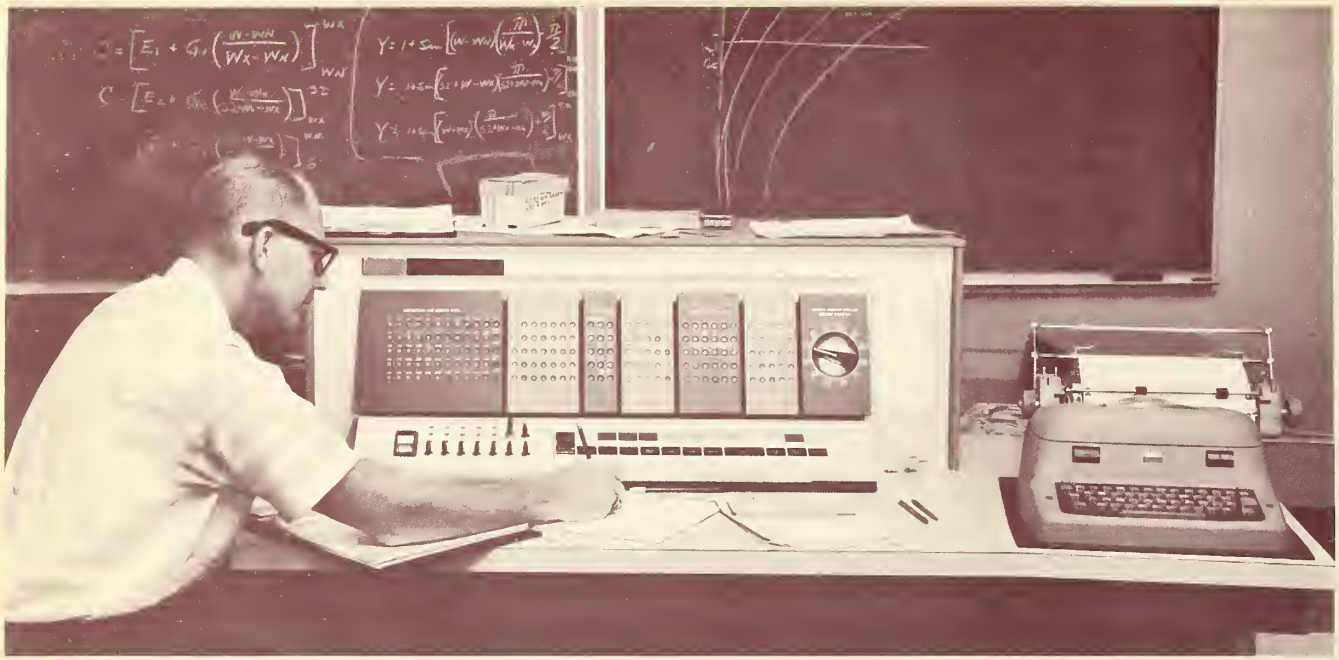
Benefits—SCS employees are under Federal civil service. Advancement is based wholly on merit. Employees are eligible for such benefits as sick and annual leave; group life, hospital, and medical insurance at nominal rates; and periodic salary increases, disability compensation if injured in line of duty, and liberal retirement annuities.

A multiple-purpose dam provides water for city and industry as well as flood protection for the whole watershed. Many dams are designed to include recreational development and wildlife habitat.

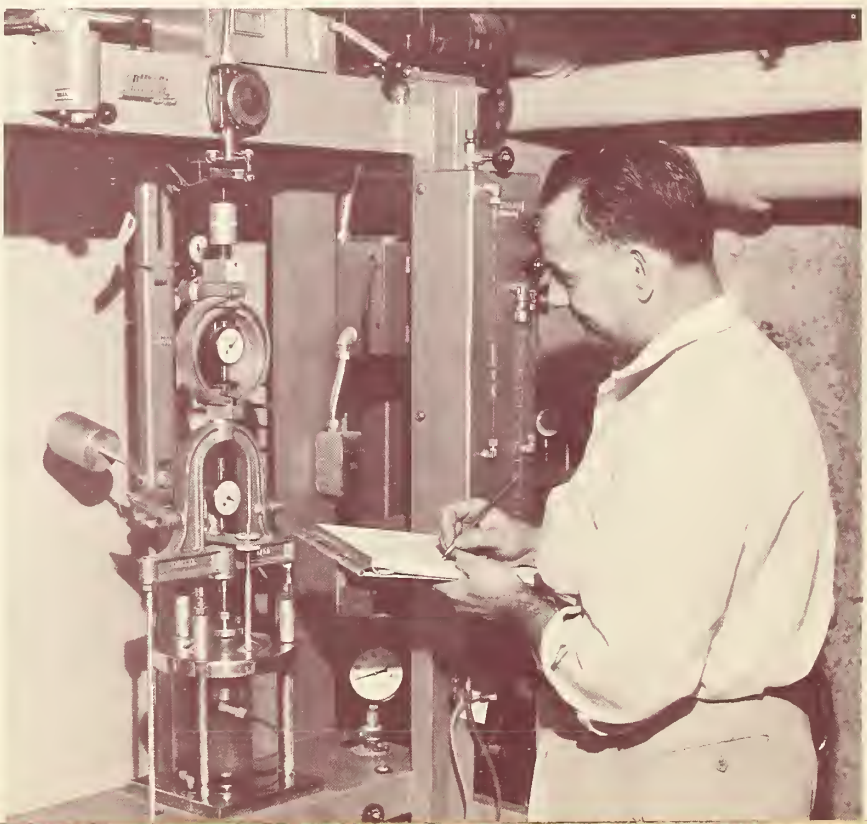
SCS engineers using a portable refracting seismograph that provides preliminary information on subsurface geology at dam sites and aids in correlating between drill holes.



Detailed information on the subsurface geology of dam sites is needed for design purposes. Core drills sample various types of foundation materials.



An electronic computer helps solve a hydrologic problem of a watershed.



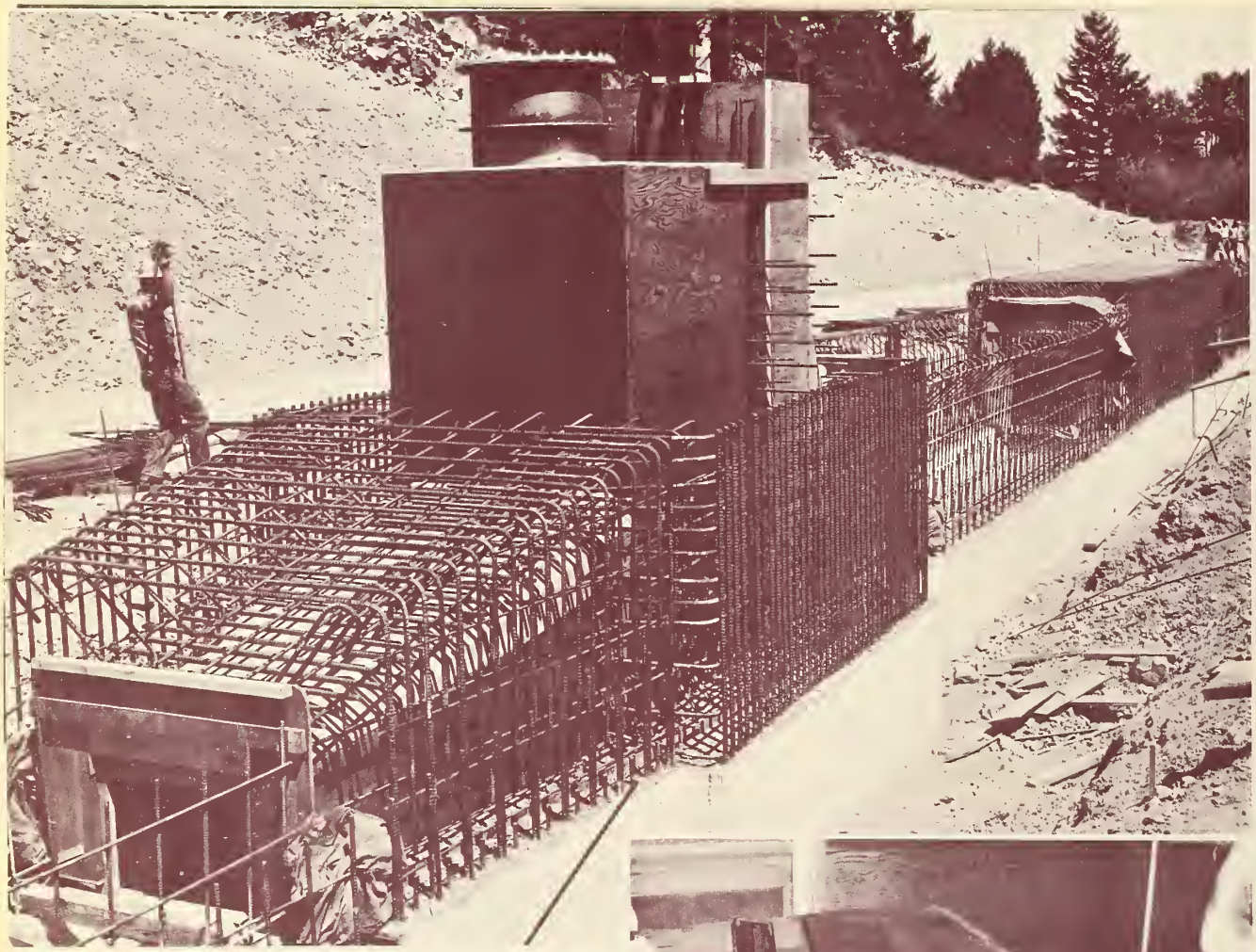
Soil tests are vital to the design process. Triaxial shear tests provide data for the design of foundations and earth embankments. In the field, laboratory, and office, soils engineering is an important part of the SCS design effort.

This engineer is using electronic equipment to establish the horizontal and vertical control needed to construct topographic maps from aerial photographs.

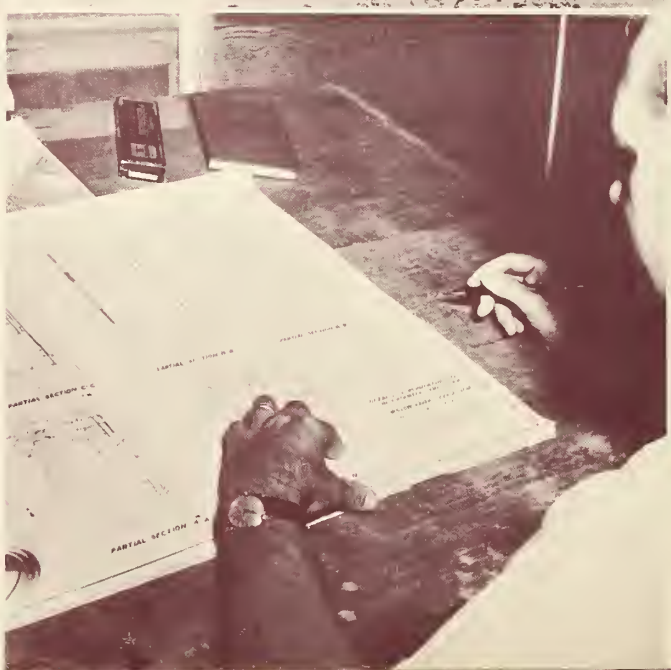
Using information provided from field surveys, site investigations, and laboratory tests, SCS engineer develops the plans for a detention dam.

One of several dams constructed for flood prevention in a watershed project.

Lining a channel to control floodwater.



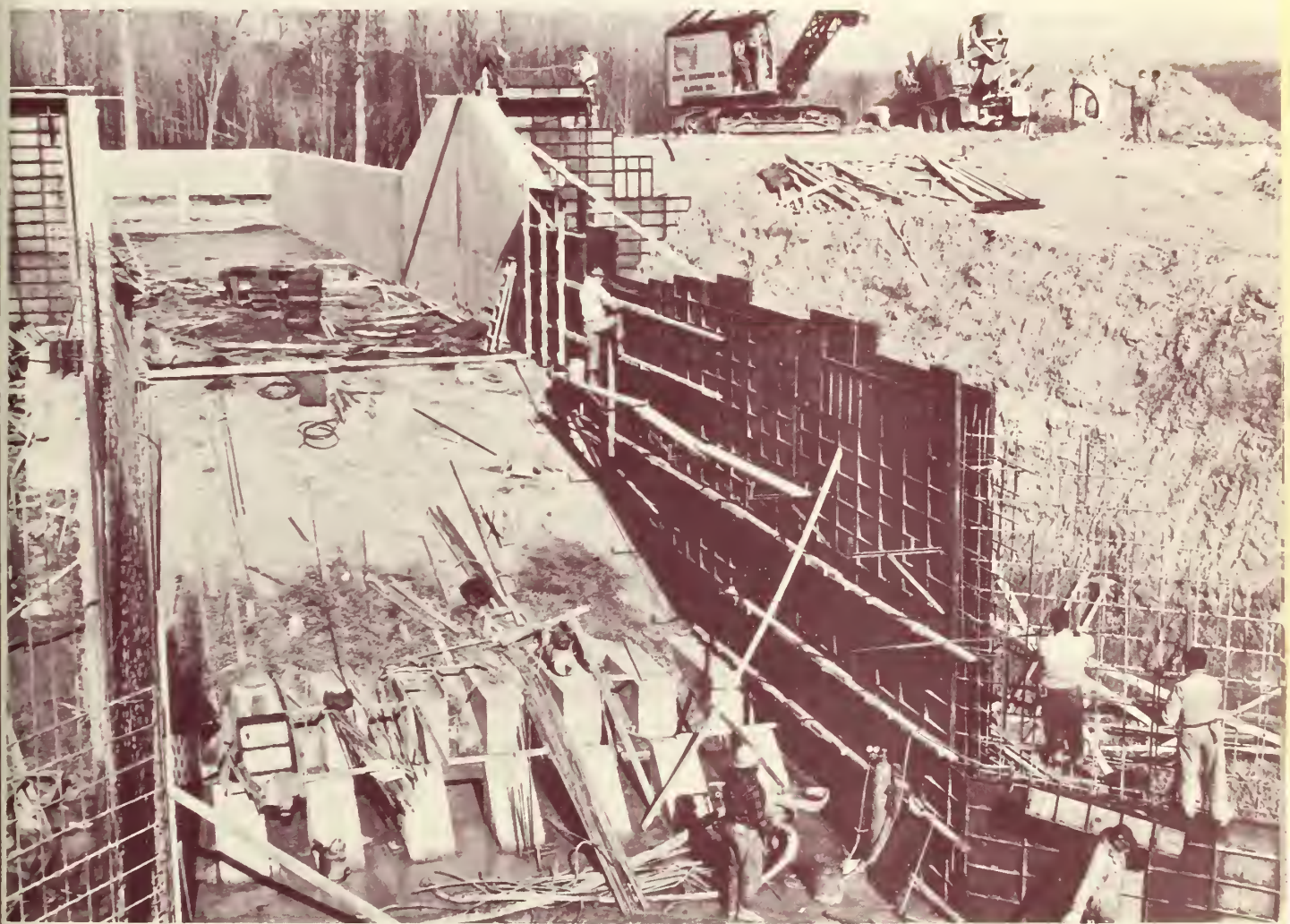
Concrete and steel form the outlet works of a dam.



SCS engineer at a construction site studies completed plans for a storage dam.

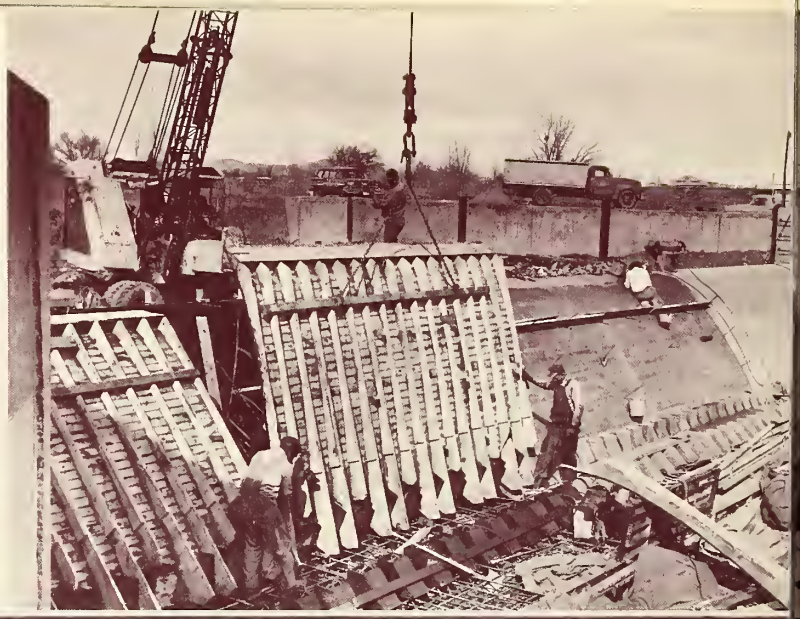
Early stage in construction of earthfill dam for flood prevention, irrigation storage, and recreation.

Completed dam provides irrigation water for the valley below and flood protection and recreational facilities for the watershed.



Placing concrete spillway in flood prevention project.

SCS engineers designed and supervised construction of this diversion dam.



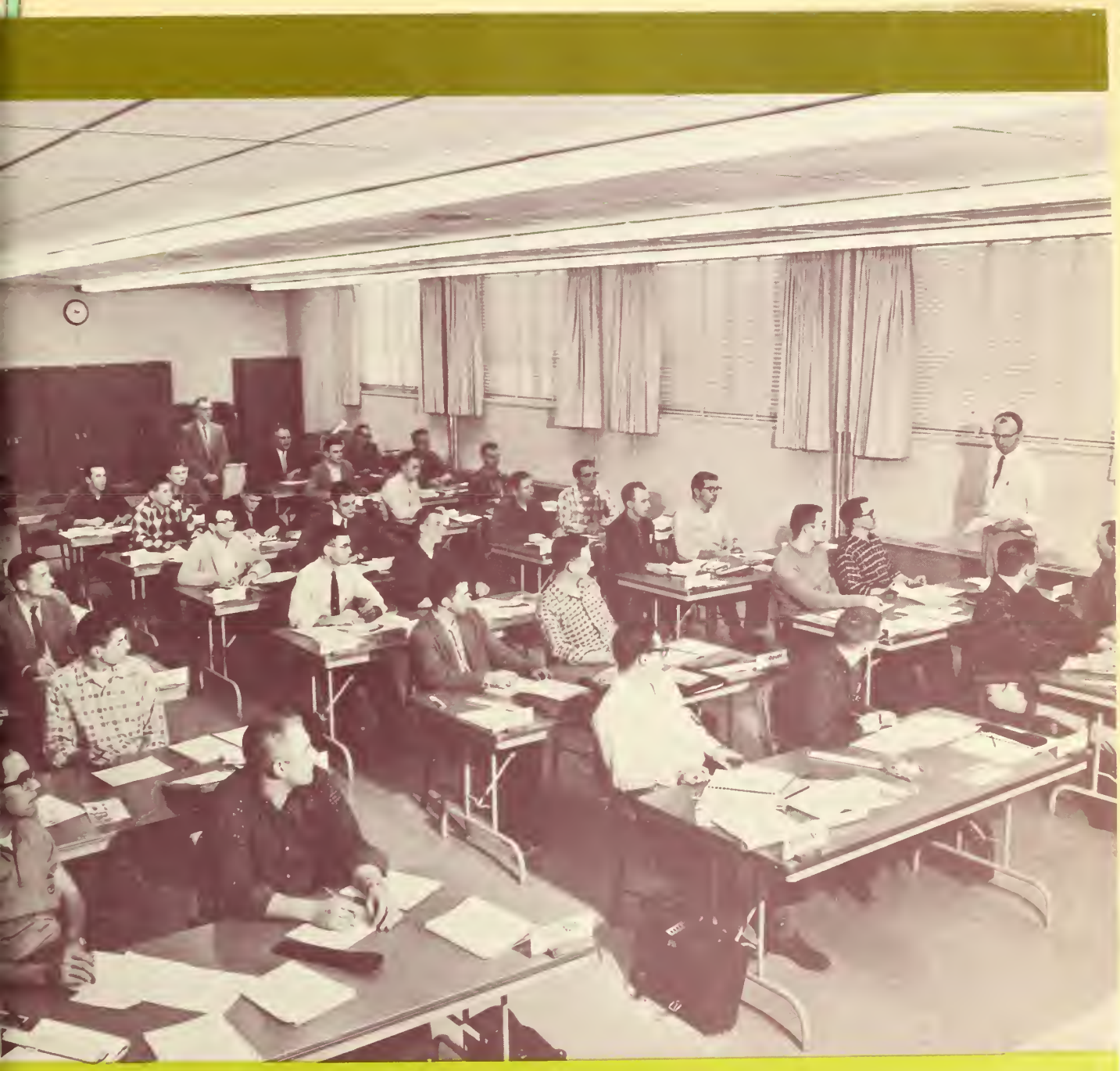
Placing and compacting earthfill in a floodwater-retarding structure.

SCS engineers are needed for both field and office assignments. This engineer is working on the design of a detention dam using data gathered in the field.

A concrete-lined canal reduces loss of water for irrigation.

Stream-channel improvement reduces flood and erosion damage.

Sometimes SCS engineers study for advanced degrees at universities at Federal expense



In-service training courses help SCS engineers keep abreast of new developments and techniques.

Soil Conservation Service engineers are employed nationwide. Map shows the location of watershed projects under study or construction in the 48 States.

★ Principal Engineering Offices
• Projects Under Study or Construction